

# Agricultural Byproducts

U T A H   S T A T E   U N I V E R S I T Y

## CENTER

The Center for Profitable Uses of Agricultural Byproducts was established to strengthen the economy of Utah, particularly the rural economy, by working closely with farmers, ranchers and other agricultural related businesses to transfer technologies utilizing agricultural production and processing byproducts. Byproducts of no or little value are transformed into energy and other salable items using technology developed at the center.

## TECHNOLOGY

The technology developed at Utah State University for the profitable use of food production and processing byproducts is manifested in two major areas: 1) anaerobic systems that can produce energy (biogas) and soil amendment from manure and food processing waste, and 2) components of a high rate aerobic bioreactor (drum composter based) system that make the process more cost effective, and the products produced by the process more valuable.

## ACCOMPLISHMENTS

A fully operational system has been built at the Caine Dairy at Utah State University and is open for visits to see the system functioning, creating a showcase of this technology. Biogas can be seen burning at this site to produce hot water. A new, larger system is now online at the Ballard pig farm in Benson, UT. This new system is designed to produce enough electricity for 80 homes by utilizing waster from about 650 animals. The permits were obtained from Cache county and the system was installed by early spring 2003. A microturbine generates electricity, a "zone" heating system directs 30 gallons per minute water heated to about 185 degrees from the turbine to heat manure coming into the digester and heat the building.

A contract was negotiated with Pacifi-corp to accept electricity generated by the this system. It is the first contract of this kind with Pacificorp. Pacificorp pays for the electricity produced at the farm.

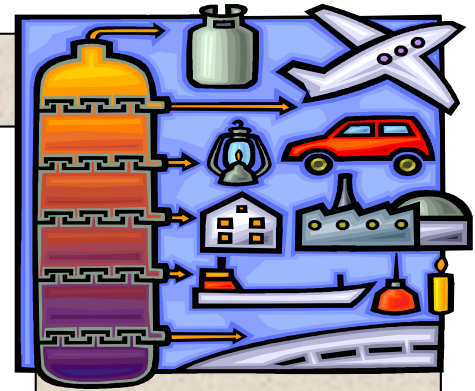
The IBR technology is very unique and easy to manage, with a high treatment rate and reliability. The Caine dairy has been operational for over two years without plugging.

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Placement and painting of tanks for  
the IBR system at Ballard farm



Benson, Utah



## THINK TANK

What if there was...

A technology utilizing  
agricultural  
byproducts  
of little or no  
value and  
transforming  
them into  
electricity???

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